

### **REMARKS**

Applicants would like to thank Examiner Forman for her comments and suggestions in the telephone interview held October 30, 2007. In the interview, Examiner Forman indicated that the added limitation of an oxide film to reduce noise is an additional structural feature that would overcome the rejections of record and require a further search.

#### **Claim Rejection - 35 U.S.C. §112**

Claims 1-2, 5-8 and 10-22 have been rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Specifically, the Examiner alleges “[t]he specification does not define any structural elements providing the claimed sensitivity.” The Examiner also alleges the previously amendments adding the word “sensitivity” are new matter because “the specification does not define what constitutes that sensitivity.”

In response, Applicants have amended independent claims 1, 8, 16, and 19 to remove the word “sensitivity.” Claims 1, 8, 16, and 19 have been amended to recite that the cantilever “proportionally responds” to the addition of a single complementary mass labeled nucleotide, while the detector “can proportionally” detect the addition of a single complementary mass labeled nucleotide. Support for these amendments can be found in paragraphs [0026] and [0023] of the specification and in Figure 1. Specifically, paragraph [0026] teaches “[w]here multiple nucleotides 218 of the same type are incorporated into the complementary strand 220, a proportional change in the properties of the structure 116, 212 will be noted.” Paragraph [0023] teaches “non-limiting examples of structure 116, 212 that may be used include a cantilever...” Although Applicants believe the cited paragraphs support a cantilever and detector having the “sensitivity” to detect the addition of a single nucleotide, the point is moot. The amendments to claims 1, 8, 16, and 19 are explicitly supported in the specification.

### **Claim Rejection - 35 U.S.C. §103**

Claims 1-2, 5-8 and 10-22 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Baller et al. (WO 01/33226, published 10 May 2001) in view of Williams et al. (WO 99/57321, published 11 November 1999) and Warthoe (U.S. Patent Application Publication No. 2003/0054344, filed 30 August 2001) or Rothberg et al. (U.S. Patent No. 6,274,320, issued 14 August 2001).

In response, independent claims 1, 8, 16, and 19 have been amended to recite that the cantilevers “have an oxide layer to reduce noise.” Support for this feature can be found in paragraph [0048] of the specification. This feature is neither taught nor suggested by any of the applied prior art. The applied references disclose various devices and techniques for sequencing nucleic acids. However, none of these references teach a cantilever with a thin oxide layer. The thin oxide layer provides the advantage that it reduces noise. See paragraph [0048]. As none of the applied references teach or fairly suggest a cantilever having a thin oxide layer to reduce noise, Applicants respectfully request withdrawal of the rejections.

### **Obviousness-type Double Patenting Rejection**

Claims 1-2, 5-8 and 10-22 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 15-17, 19-20, 29-30, 34-37 and 42-52 of copending Application No. 10/254,201 in view of Lindsay et al. (U.S. Patent No. 5,750,989). Whereas the claims of the present application and copending application 10/254,201 may change during prosecution, Applicants respectfully request the double patenting rejection be held in abeyance pending indication of allowable claims.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Dated: October 30, 2007

Respectfully submitted,

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